

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

3. Method according to ~~one of~~ claims 1 ~~or~~ 2, characterised in that the current which is shunted comprises between 1% and 30%, and preferably between 5% and 15% of the charging current of all the cells (5, 6, 7).

4. Method according to claim 3~~1~~, characterised in that the charging current of all the cells (5, 6, 7) is calculated as a function of the temperature of each of the cells.

6. Method according to claim 5~~1~~, characterised in that the range of temperatures is between 40°C and 110°C, and preferably between 50°C and 100°C.

7. Method according to ~~one of the~~ claims 1 ~~to~~ 6, characterised in that the charging current is calculated according to the formula:

$$I_{\text{charge}} = A \exp \left[\frac{-B}{2T} \right] \cdot S$$
 where S is the free surface of the cells being charged, A is between $80 \frac{mA}{cm^2}$ and $150 \frac{mA}{cm^2}$, and preferably between $105 \frac{mA}{cm^2}$ and $110 \frac{mA}{cm^2}$ and B is between 4200 K and 4800 K, and preferably between 4400 K and 4600 K.

8. Method according to claim 7~~1~~, characterised in that the surface capacitance of each cell is calculated according to the formula $C_{\text{max_charge}} = \frac{(\alpha T + \beta) \cdot S}{I_{\text{charge}}}$ where α is equal to $0.01 \frac{mA^2}{Kcm^4}$

and β is between $3.3 \frac{mA^2}{cm^4}$ and $3.2 \frac{mA^2}{cm^4}$, and preferably between $3.24 \frac{mA^2}{cm^4}$ and $3.26 \frac{mA^2}{cm^4}$,

and S is the surface of each cell expressed in cm^2 and I_{charge} is the charging current according to the formula of claim 7, and in that the charging time is between 5 and 15 hours, preferably between 7 and 10 hours.

9. Method according to claim 8~~1~~, characterised in that before one cell has reached the threshold voltage and while the voltage difference between this cell and a cell which has a voltage of minimum charge is greater than a predetermined value, a part of the charging current of this cell is shunted.

10. Method according to claim 9~~1~~, characterised in that said voltage difference is between 10 mV and 200 mV.

11. Device for charging several electrochemical cells (5, 6, 7), in particular Lithium-Polymer cells, connected in series to a charger (1) which allows adjusting the voltage and the charging current, for implementing the method according to ~~one of claims 1 to 10~~, said device comprising means (21, 22, 23) for detecting the voltage in each cell, means (15, 16, 17) for shunting the current of each cell, means (12, 13, 14) for connecting the shunting means to each cell (5, 6, 7), characterised in that it further comprises means (18, 19, 20), for comparing the voltage of each cell with a threshold voltage, means (24) for applying an increment to the charging current of the said several cells (5, 6, 7) when the voltage in one of the said several cells (5, 6, 7) reaches a threshold voltage and means (15, 16, 17) for shunting a part of the current equivalent to the increment.

13. Device according to claim ~~12~~1, characterised in that the control unit (24) further comprises means for comparing the outputs of temperature sensors (25, 26, 27) of each cell (5, 6, 7) to a threshold temperature.